

REMARKS/ARGUMENTS

The specification has been revised to conform it to the preferred format for U.S. patent applications as required in the Office Action, and a Substitute Specification and Comparison Copy are submitted herewith.

Claims 1-17 are pending in this application. Claim 18 has been canceled. Claims 1-17 have been amended.

The claims were reworded to substitute the routinely used "wherein" and "including" or "comprising" for the less common "characterized in that" and to delete all drawing reference numerals from them. These changes were made for purposes of clarification unrelated to patentability concerns.

Claim 16 has been rejected for a lacking antecedent basis. This has been overcome by substituting "a" for "the". The retraction of this rejection is therefore requested.

Substantively, all claims were rejected for anticipation over Wagner (WO 01/76965), Suzuki (EP 1078864), Ryder (5,154,325), Ranalletta (EP 602019) or Gstohl (WO 01/00498). Reconsideration and retraction of these rejections in view of the following are requested.

Claim 1, as amended, is for a valve for the drop application of a liquid in a container. There is a take-up body which has a discharge passage for the liquid and an elastically deformable membrane arranged in the take-up body "which is closed at its front end" and sealingly closes the discharge opening. Claim 1 further requires that "the take-up body [has] an aeration passage extending through the take-up body for a follow-up air flow, the membrane also sealingly closing the aeration passage".

Thus, claim 1 requires inter alia that the elastic membrane is closed at its front end and that the take-up body has an aeration passage that is sealingly closed by the elastic membrane. None of the prior art references relied on in the anticipation rejection of the claims

discloses either the provision of an elastic membrane that is closed at its front end and seals the discharge passage or an aeration passage that is sealingly closed by the elastic membrane.

Claims 1-4, 13, 14, 17 and 18 were rejected for anticipation by Wagner.

Wagner does not disclose a valve capable of releasing drops of liquid. Rather, Wagner discloses a well-known movable closing cap for drinking bottles which requires exerting a manual force onto "mouthpiece" 13 for manually (or with the teeth) pulling or pushing the mouthpiece between its open and closed positions shown in Figs. 1B and 1A, respectively. As is clear from the drawings, mouthpiece 13 is either open, permitting a stream of liquid to flow out of the bottle, or closed, preventing the flow of any liquid. Wagner is incapable of releasing droplets from the bottle.

At least for this reason, Wagner does not anticipate claim 1.

The anticipation rejection of claims 1-4, 13, 14, 17 and 18 over Wagner relies on the assertion that element 21 of Wagner, identified by Wagner as a ring or flange, constitutes "a single elastical deformation membrane 21 having a dome-shape which projects out of the take-up body". Element 21 is not a membrane, but a rigid crown or ring that is clamped in place between a collar 12 and the upper end of neck C of a glass or plastic bottle. Crown 21 of Wagner includes "radial openings 20", but it has no flexibility. Thus, Wagner does not disclose an "elastically deformable membrane which is closed at its front end" as required by claim 1.

For at least this further reason, claim 1 is not anticipated by Wagner.

Wagner further does not disclose or in any form suggest "an aeration passage extending through the take-up body for a follow-up air flow" as required by claim 1. Wagner has no air flow passage leading from the exterior to the interior of the container, much less does Wagner disclose that the elastic membrane sealingly closes such aeration passage, as also required by claim 1.

For at least this additional reason, claim 1 is not anticipated by Wagner.

In view of the foregoing, applicant requests the retraction of the anticipation rejection over Wagner.

Claims 1-14 and 16-18 were rejected for anticipation by Suzuki, which was viewed as disclosing a valve having a take-up body, a discharge passage, a single deformation membrane 6 with a dome-shape that projects out of the take-up body, and a support element.

Amongst others, amended claim 1 requires that the elastic membrane “is closed at its front end”. In Suzuki, membrane 6 is open at its front end as shown in Fig. 2. Indeed, the front end of the membrane defines a hole 62. Thus, Suzuki does not disclose a membrane which is closed at its front end.

For at least this reason, claims 1-14 and 16-18 are not anticipated by Suzuki.

Claim 1 further requires that the take-up body has “an aeration passage extending through the take-up body for a follow-up air flow” There is no aeration passage which extends through Suzuki’s take-up body.

For at least this further reason, Suzuki does not anticipate the claims.

Still further, claim 1 requires that the membrane sealingly closes the aeration passage in the take-up body. Membrane 6 of Suzuki does not and cannot sealingly close a non-existing aeration passage in the take-up body.

For at least this additional reason, Suzuki does not anticipate the claims.

In connection with this rejection, applicant notes that Suzuki discloses the provision of a vertical hole 62 for allowing air to pass therethrough. Although this hole is not in the take-up body, in order to permit passage of air, the “vertical through hole 62 ... has a diameter into which the projected stopper piece 33 of the stopper unit 3 can loosely fit (see Fig. 1)”. (Column 23, lines 39-42). Indeed, as recited in claim 9 of Suzuki, the vertical hole 62 and stopper 33 form “a gap between the valve head (61) and the projected stopper piece (33)” which allows air to pass therethrough. (Column 36, lines 17-19). To the extent that this vertical hole might compensate the air pressure between the interior of the bottle and the exterior, which in

view of the disclosure in Suzuki is not clear at all, it is not a passage that extends through the take-up body and/or is not sealed by the elastic membrane, as required by claim 1 of the present application.

Thus, claims 1-14 and 16-18 are not anticipated by Suzuki.

Claims 1-13 and 15-18 were rejected for anticipation by Ryder. Ryder was viewed as disclosing a valve with a take-up body “having a discharge passage and an aeration passage 44”, a single elastic membrane 28 with a dome-shape that projects out of the take-up body, a support element and a filter.

Claim 1 requires inter alia that the membrane “is closed at its front end”. Elastic membrane 28, as is clearly shown in Figs. 1-5 of Ryder, is not closed. It has a “duckbill valve opening 29 [which] will immediately close with the drop in hydraulic pressure when the dispensing liquid flow is stopped” (Column 4, lines 33-35). A valve opening that only closes when there is a drop in hydraulic pressure inside the container is not a closed end as recited in claim 1, and Ryder’s membrane therefore does not have the closed front end required by claim 1.

For at least this reason, claims 1-13 and 15-18 are not anticipated by Ryder.

The Office Action notes that Ryder has an aeration passage 44 and a membrane 28. Item 28 of Ryder is not a membrane, but the tubular portion of duckbill valve opening 29. But even if it were considered a membrane, it does not sealingly close Ryder’s aeration passage 44. To aspirate air for the reinflation of the squeezed container and to replace the liquid that has been displaced, “ambient air is drawn into an entrance passageway 44 and is downwardly directed and filtered through the filter portion 24a above the passageway bore 40 through which the air flows” (Column 5, lines 11-14). Indeed, as is clearly shown in Figs. 2 and 3, aeration passage 44 is not sealed when liquid is dispensed (Fig. 3) or when no liquid is dispensed (Fig. 2). Thus, Ryder does not disclose to sealingly close the aeration passage with the flexible membrane.

For at least this further reason, claims 1-13 and 15-18 are not anticipated by Ryder.

Claims 1, 3, 4, 7-11, 13 and 15-18 were rejected for anticipation by Ranalletta, which was viewed as disclosing, in Figs. 2 and 3, a valve for a drop application with a take-up body 20 having a discharge passage and aeration passage 23 and a membrane 24 which projects out of the take-up body. Item 23 of Ranalletta is not a discharge opening. The discharge opening is the passage that extends through tubular nozzle 24d of diaphragm 24 as is illustrated in Figs. 2, 2a and 3, for example.

Claim 1 requires that the membrane "is closed at its front end". Diaphragm 24 of Ranalletta does not have a closed front end. To the contrary, the front end (tubular nozzle 24d) is open.

For at least this reason, claims 1, 3, 4, 7-11, 13 and 15-18 are not anticipated by Ranalletta.

Item 23 of Ranalletta is one of several "through-slots 23 which are respectively aligned with the six cleats 20b; slots 23 provide tooling access for moulding the cleats". (Column 3, line 57 to column 4, line 2). Accordingly, Ranalletta does not disclose to provide an aeration passage as required by claim 1.

For at least this further reason, claim 1 is not anticipated by Ranalletta.

Even if through-slots 23 of Ranalletta are somehow capable of aerating the interior of squeeze container 12, which is neither described in Ranalletta nor is it clear that the through-slots can function in this manner, assuming for the sake of argument that this is possible, the through-slots of Ranalletta (which would correspond to the aeration passages recited in claim 1) are not sealingly closed by the flexible membrane or Ranalletta's diaphragm 24, as required by claim 1.

For at least this additional reason, claim 1, and therewith claims 3, 4, 7-11, 13 and 15-18, is not anticipated by Ranalletta.

Claims 1-4, 6, 7, 9-14 and 16-18 were rejected for anticipation by Gstohl, which was viewed as disclosing a drop application valve with a take-up body 6 that has a discharge passage, a membrane 3, and a support element 13.

In relevant parts, claim 1 requires “an aeration passage extending through the take-up body for a follow-up air flow”

Gstohl’s liquid dosage nozzle has no provision for flowing air from the exterior into deformable bottle 1 and, therefore, also has no aeration passage as is required by claim 1.

For at least this reason, claim 1 is not anticipated by Gstohl.

Claim 1 further requires that the membrane sealingly closes the aeration passage. Gstohl has no aeration passage that could be sealed and, therefore, has no disclosure concerning a membrane which sealingly closes such a non-existent aeration passage.

For at least this further reason, claim 1, and therewith claims 3, 4, 7-11, 13 and 15-18, is not anticipated by Gstohl.

As was demonstrated above, none of the five references over which the claims were rejected for anticipation in fact anticipate claim 1. All references fail to disclose at least one of the membrane with a closed front end, the aeration passage extending through the take-up body for a follow-up air flow, and sealingly closing the aeration passage with the membrane, as required by claim 1. Thus, independent claim 1 and claims 2-17 which depend from it are allowable over each of these references.

CONCLUSION

In view of the foregoing, applicant submits that this application is in condition for allowance, and a formal notification to that effect at an early date is requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (415) 273-4730 (direct dial).

Respectfully submitted,


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